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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/708,677	03/18/2004	Timothy G. Offerle	81095828FGT1910	2676

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EXAMINER

SCHWARTZ, CHRISTOPHER P

ART UNIT PAPER NUMBER

3683

DATE MAILED: 07/28/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/708,677

Applicant(s)

OFFERLE ET AL.

Examiner

Christopher P. Schwartz

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-30 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-30 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 3.

- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: ____.

DETAILED ACTION

Specification

1. The disclosure is objected to because of the following informalities: the specification is replete with grammatical errors. Not to mention the font size is rather large.

Applicants should consider the submission of a substitute specification, with appropriate font size (Arial/Times New Roman 12).

Appropriate correction is required.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claim 30 rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 30 is not understood.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of

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the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

6. Claims 1-4, 11-27, 29, 30 rejected under 35 U.S.C. 103(a) as being unpatentable over Deng et al. or Gerum et al. in view of Mizusawa et al..

Regarding claims 1, Deng et al. '094 or Gerum et al. '683 each show a trailer system that "senses" a current position (or hitch angle) of a trailer relative to a vehicle and determines and uses a steering wheel angle to determine a predicted position of the trailer based on the current position thereof and the steering wheel angle. See columns 2 and 3 of Deng et al. and Gerum et al. claims 1-7.

Lacking in these references is the camera and display.

Mizusawa et al. Teaches this idea as discussed in column 1 and as clearly seen from figure 1.

The ordinary skilled worker in the art at the time of the invention would have found it obvious to have modified either Gerum et al. or Deng et al. with a camera and display system, as taught by Mizusawa et al. simply to assist the driver when towing a trailer.

The limitations of claims 2-4, as broadly claimed, are fairly suggested by the combined references above.

Regarding claims 11 and 12 these limitations would have been obvious to the ordinary skilled worker in the art to prevent the vehicle and trailer from jack-knifing upon putting the towing vehicle in "reverse". The signal generated could come from the reverse brake lights.

Regarding claims 13-17 these limitations are fairly taught by the references above.

Regarding claim 18 when the transmission is put into reverse (either by shift lever or push button (which may be on the shift lever – as all are notoriously well known in the art) a reverse signal is generated. The "transmission controller" could be the shift lever.

Regarding claim 19 this limitation is simply an obvious variation of generating a reverse signal to the reverse brake lights—an indicator indicating the transmission shift lever has been put into reverse.

Regarding claim 20 these limitations are met.

Regarding claim 21, as broadly claimed, these limitations are met with either '683 or '094 as modified by Mizusawa et al.. Note the hitch angle sensors and controllers which are used in both references and the camera and display system of Mizusawa et al. to aid the driver. Just about any display of the trailer from the camera may be interpreted as a "predicted path", as interpreted by the driver.

Regarding claims 22-27,29 as broadly claimed and as explained above, these limitations are fairly taught by the combined references above.

Regarding claim 30, as best understood, these requirements are met.

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7. Claims 5-10, 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over either Gerum et al. '683 or Deng et al. '094 in view of Mizusawa et al as applied to claim 1 above, and further in view of Hrazdera et al.

Regarding claims 5-10 although '683 or '094 lack a brake-steer system such systems are notoriously well known in the art used to reduce the turning radius of the vehicle.

See column 4 lines 14 and 29-30 of Hrazdera et al..

One having ordinary skill in the art at the time of the invention would have found it obvious to have supplied either '094 or '683 with a brake-steer system, as taught by Hrazdera et al. to reduce the turning radius of the vehicle/trailer combination to improve maneuverability or to adapt the device to agricultural type vehicles.

Given a different interpretation, claim 18 could be rejected here as well, since Hrazdera et al. teaches this idea at 6 and 2, and to have modified either '683 or '094 with such a device would have been obvious simply dependent upon the type of vehicle or the environment the vehicle is to be utilized in.

8. Claim 28 rejected under 35 U.S.C. 103(a) as being unpatentable over '094 or '683 as applied to claim 21 above, and further in view of Yoshioka et al.

'094 or '683 lack using an ultrasonic sensor for the detection of a distance to an object.

Yoshioka et al. Teaches this at 27. Note the other devices taught in Yoshioka et al. to assist driver navigation.

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One having ordinary skill in the art at the time of the invention would have found it obvious to have modified either '094 or '683 with an ultrasonic sensor to aid in object detection and assist the driver in avoiding a collision with such when backing up the trailer.

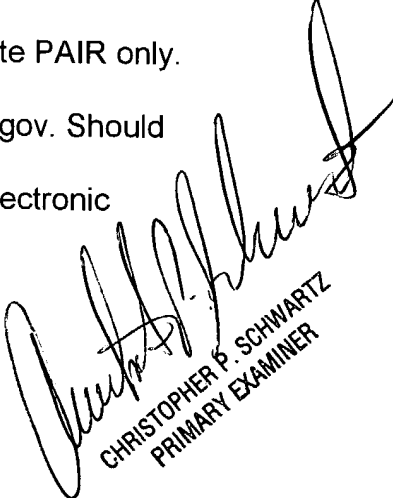
Conclusion

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The references cited have been cited for showing other types of trailer navigation assist systems. Note the references to Breen.

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Christopher P. Schwartz whose telephone number is 703-308-0576. The examiner can normally be reached on M-F 9:30-6:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jack W. Lavinder can be reached on 703-308-3421. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



CHRISTOPHER P. SCHWARTZ
PRIMARY EXAMINER